no serious injuries could be detected; as he was quite insensible, no history could be obtained from himself. The pupils were dilated. On using the ophthalmoscope, Mr. Hutchinson found, to his surprise, the usual evidences of Bright's disease in both retinæ. There were patches and dots of deposit and large extravasations. This discovery led to the suggestion that the man was suffering from apoplexy, and not from injury. He died during the following night, and the autopsy proved the correctness of the diagnosis. Both retinæ were extensively diseased; the urine contained in the bladder was loaded with albumen, and the kidneys were contracted and granular; the lateral ventricles of the brain were crammed with blood-clot. The man had not suffered from dropsy, and had kept at his work throughout.

38. *Graves' Disease.*—The following interesting clinical remarks were made by Dr. REITH on the occasion of a case of Graves' disease admitted into Aberdeen Royal Infirmary, and in which an opportunity was afforded for a post-mortem examination.

The singular triple combination of symptoms constituting Graves' disease is by no means an uncommon occurrence. Interesting as it is to the physiologist as well as to the pathologist, its nature has given rise to much discussion, inasmuch as the post-mortem examinations of patients affected with it have not tended to unveil the obscurity which surrounds it. When we reflect that the essential feature of the disease is the existence in the same individual of a triad of symptoms apparently unconnected with each other—namely, palpitation, enlargement of the thyroid gland, and protrusion of the eyes, we cannot be surprised at the great difference of opinion which prevails regarding its pathology. The difficulty is not diminished by the circumstance that, in some cases, one of the above symptoms is wanting, and that the affection occurs in stout as well as in anæmic persons. But whatever may be the primary cause, it is evident that those theories which refer the symptoms to anæmia and chlorosis, to pressure on the veins by the enlarged thyroid gland, or to venereal excess and disordered sexual function, are untenable, on the following grounds :—

1. Many of the patients are neither anæmic nor chlorotic ; on the contrary, some are well-coloured, and even plethoric.
2. In not a few instances, especially in men, the thyroid gland is but slightly enlarged.
3. One of the three most prominent symptoms is often absent, or but slightly manifested. Thus there may be palpitation and goitre without proptosis, palpitation and proptosis without goitre, goitre and proptosis without palpitation.
4. The symptoms succeed each other in different orders in different individuals.
5. Patients affected with debilitating discharges are not subject to this disease.
6. The cardiac murmur at the base of the heart, when present, differs from that of anæmia.
7. Considering the rarity of the disease compared with the number of persons addicted to venereal excess, we can scarcely regard such excess as having any connection with it. There is, however, an undoubted relation between it and disturbance of the female sexual functions.

The opinion, first promulgated, I believe, by Trousseau, and now shared by Begbie, Fletcher, Laycock, etc., that the true cause of the disease is a neurosis of the cervical sympathetic nerve—is the one most consistent with our present physiological knowledge. The striking resemblance between the effects of artificial lesion of the sympathetic and the symptoms of Graves' disease fully justifies the inquiry as to the probability of a morbid lesion of the same nerve being the *fons et origo mali.* The connection of the sympathetic with the heart and the thyroid gland may be considered as satisfactorily demonstrated; and as excitement of the female sexual organs influences by reflex action through the ganglionic system, both the heart and the thyroid gland, there is ample reason for assuming that a lesion of that system itself would operate directly upon the organs connected with it. I am not aware that any post-mortem examination has yet thrown light upon the condition of the sympathetic in Graves' disease, and, consequently, Trousseau's opinion, however probable, requires confirmation. The case just recorded will therefore be of interest.

The case, it will be seen, differs somewhat from the usual appearance of Graves' disease. Instead of both eyes protruding at one time, there is an interval of a good many years between the protrusion of one eye and that of the other. Again, there is no history of palpitation. It should be remembered, however, that, when the patient was seen, his memory seemed entirely confused, and evidently could not be trusted, although, he was otherwise perfectly conscious of his condition. But whether palpitation existed or not, there can be no doubt that the case belongs to the same category as Graves' disease. There are some slight modifications, and its true place would probably be among the cases called "*fruste*" by the French. At the autopsy the various organs were found exactly as they have been found in Graves' disease—in a state of passive congestion. After a most careful dissection, nothing was found which would account for death except venous congestion of the viscera, and for this there was no apparent cause, unless we recognize as morbid the condition of the sympathetic. On the left side the trunk of the nerve and its two upper ganglia were considerably enlarged, while the inferior ganglion was not only enlarged, but hardened, so as to feel like cartilage. On the right side the nerve preserved its original appearance, but its inferior ganglion was in a similar condition to that of the left side. In addition the cellular tissue surrounding each inferior ganglion was thickened and hardened. Here, then, were alterations perceptible even to the unaided senses, sufficient, I believe, to account for the symptoms observed during life. For if we admit, with most physiologists, that the simple division of the cervical sympathetic is followed by a peculiar train of effects referable to the eye and the bloodvessels of the head, we must infer, also, that a morbid action in the same nerve will be followed by a corresponding train of symptoms. And this is what was observed in the present case. The trunk of the left nerve was enlarged, and the inferior ganglia of both sides presented such alterations that the whole substance of the nerve must have been implicated; and we can hardly suppose such to take place without serious interruption to its functions. The question then arises, What was the nature of this alteration? The microscopical appearances were far from decided, the only thing noteworthy being condensation of the ganglion cells, with an immense quantity of granular matter. It is thus very difficult to form a positive opinion. I have no doubt that the enlargement of the trunk and two upper ganglia on the left side was due to hyperæmia; but how it was induced is not at first sight clear. There was evident structural change in the inferior ganglia; but this had no special characters. Notwithstanding the apparent obscurity, I think we have sufficient data for a satisfactory, though I admit not conclusive, explanation. It is well known that syphilitic deposit may take place in the nerves and other tissues of the body of an albumino-fibroid description. This deposit, however, is not to be distinguished by its character from an ordinary inflammatory exudation, and the inference of syphilis can be drawn only from the presence of similar deposits in large quantities in other organs, the previous history, etc. In like manner a tuberculous deposit may occur, not distinguishable from an inflammatory exudation, and only assumed to be tubercular from the existence of undoubted tubercle elsewhere. This is what I believe took place in the above case. The ganglia were altered in structure, and the alteration presented no special character. When we consider, however, that there was extensive tubercular infiltration in the cellular tissue of the neck, that there was enlargement of the cervical glands, and that the neck from ear to ear was covered with scrofulous cicatrices, the assumption is warranted that the ganglia of the sympathetic were involved in a similar manner. There is no reason why the sympathetic nerve should not be subject to the same morbid lesions as other organs, producing effects proportional to the important part it plays in the economy, and I think that the explanation of the present case just given is, at least, fairly admissible. The nerves appear to have been involved by contact with the surrounding infiltrated tissue. This induced hyperæmia and then hypertrophy of the trunk above on the left side, and hyperæmia alone of the trunk on the right side, where the morbid action was evidently recent. The hypothesis just started receives confirmation from the condition of the sympathetic nerve and ganglia in various diseases. Rokitansky says, "There might, however, be a true hypertrophy of the ganglia, in aggregating of new ganglion cells; although of it also we lack proof from facts. I have met with a case of general emaciation combined with an eminent degree of hypochondriasis, in which the central abdominal ganglia were considerably enlarged." And again, "More important instances of hyperæmia are found in the sympathetic system; its central ganglia became congested in the course of general acute processes of low type (dyscrasisch), which become localized in those structures to which the ganglionic nerves are distributed, especially in the mucous membrane and follicular apparatus of the intestines. The congestions of the ganglia just mentioned in the early stages of ileo-typhus (typhoid), in the course of cholera and cholera-typhus are of this class." The same writer further states that exudations are not uncommon in nerves, these exudations involving the surrounding cellular tissue. The anatomical condition of the lower cervical ganglia and left sympathetic in this case, is quite analogous to Rokitansky's description, and may be set down to a low exudation, probably tubercular. This would lead us back to the blood as the ultimate cause of the disease, but it is probable that in all disorders depending on a constitutional diathesis, the blood and the vaso-motor system have a mutual action and reaction on each other, and that whether the one or the other be the primary seat of the morbid change, both come to be simultaneously affected. Begbie holds this view, but thinks that the *primum mobile* is the blood, at least in Graves' disease.

There is an apparent discrepancy in this case between the physiological and pathological results of lesion of the sympathetic. Section of the nerve causes falling in of the eye, contraction of the pupil, and dilatation of the bloodvessels; irritation of the nerve produces the opposite effects, protrusion of the eye, dilatation of the pupil, and contraction of the bloodvessels. In this patient there were two of the symptoms of irritation, proptosis and dilated pupil, with one of the symptoms of paralysis, dilatation of the bloodvessels. Belladonna exercises a similar action, causing dilated pupils (irritation), and enlargement of the bloodvessels (paralysis), although it is maintained that in the first instance the bloodvessels are contracted. Two explanations may be given of this anomaly. In the first place, the primary contraction of the bloodvessels caused by irritation of the nerve, as in the first action of belladonna, had been followed, according to the laws of stimuli, by an excessive reaction. Again, Brown-Séquard concludes, from observations made by himself, Bernard, and others, that there are two kinds of influence exerted by the sympathetic and the nervous system generally. By the one, when the sympathetic is excited the bloodvessels contract, and by the other they enlarge in consequence of a greater attraction for arterial blood developed in the tissues. Which of these two explanations is correct it is impossible at present to say. Claude Bernard endeavours to make out that there are two sets of fibres sent out from the oculo-spinal tract of the cord, one set, which he denominates oculo-pupillary, affecting the eye and the pupil, and the other, vascular calorific, specially affecting the bloodvessels, and that either set may be affected independently of the other. Reflex actions on the vaso-motor nerves cause a momentary contraction of the bloodvessels, which is followed by their dilatation. If these views be correct they may assist in throwing light on the subject, but it is evident that the cause of enlargement of the bloodvessels and consequent congestion is still obscure.

Various opinions have been entertained regarding the cause of the exophthalmos, but most writers consider it entirely the result of venous congestion and post-ocular serous effusion. This was the actual state of the right orbit in this case. But there was no such effusion, and much less congestion existed in the neighbourhood of the left eye, which was more prominent than the right. Supposing that the right eye had originally been protruded in consequence of congestion and serous effusion, it seems to me that, after the lapse of so many years, the eye would have recovered its original position in the absence of any mechanical perpetuating cause, as tumour, etc. Now, exophthalmos is often not present, or, if it is, not nearly to the same extent as here, in cases of extreme venous congestion, as in strangulation. While, therefore, congestion may assist in the production of exophthalmos, nervous influence must play a considerable part in the action, but how, has been hitherto unexplained.

Since the above was written I have seen an account of a discussion on Graves' disease in the *Société de Médecine* of Paris, recorded in the *Gazette des Hôpitaux* of March 21 and April 16, 1865. A case is mentioned where the sympathetic nerve was carefully examined. The lower cervical ganglia, especially on the right side, were much enlarged and reddened. Under the microscope the ganglionic structure was found almost obliterated, what remained of it being inclosed in the meshes of hypertrophied connective tissue, which composed the greater part of the ganglia. Predominance of the connective element and diminution of the nervous element constituted the alteration. For a full report of the case and the discussion I refer to the journal above mentioned.—*Med. Times & Gaz.*, Nov. 11, 1865.

39. *Black Cataract.*—Mr. NUNNELEY, of Leeds, showed to the Pathological Society (Nov. 21, 1865) a specimen of this. The patient, 75 years of age had had double catract. Nothing unusual had been observed in the case. The right lens, which had been the longer affected, was extracted January 19, 1865. It was then quite black at the centre, and nearly so at the margin, but it had become of a lighter colour by keeping. The other lens was extracted in February, and was of a lighter colour, and also was of a lower specific gravity.—*Med. Times and Gaz.*, Dec. 2, 1865.

MIDWIFERY.

40. *Mortality of the Childbed as affected by the Number of the Labour.*—The *Edinburgh Medical Journal* for September last contains an interesting paper on this subject by Dr. J. MATTHEWS DUNCAN. The author, after presenting the statistics he has collected, remarks, "It must be noted that I have, hitherto, at least, said nothing regarding the nature of the relation between the number of the delivery and the mortality attending it. It is true the data recorded demonstrate more or less completely certain coincidences, which may be called laws. But they establish nothing further. These laws are as follows:—

"1. The mortality of first labours is about twice the mortality of all subsequent labours taken together.

"2. The mortality from puerperal fever following first labours is about twice the mortality from puerperal fever following all subsequent labours taken together.

"3. As the number of a woman's labour increases above nine, the risk of death following labour increases with the number.

"4. As the number of a woman's labour increases above nine, the risk of death from puerperal fever following labour increases with the number.

"5. If a woman has a large family, she escapes extraordinary risk in surviving her first labour, to come again into extraordinary and increasing risk as she bears her ninth and subsequent children.

"These laws, although they merely state coincidences, have very important practical bearings, which are too self-evident to require description. They have also important philosophical bearings, which were alluded to in the commencement of this article. The most important, perhaps, of these relate to puerperal fever. These also I shall not enter upon farther than to say, that the attendance of puerperal fever specially on primiparæ, and women who have born large families—its pretty close correspondence in relative amount to the general mortality of parturition after different pregnancies—its subjection also to the law of the duration of labour—do not appear to me no lend support to the views hitherto generally entertained regarding it, and expressed in the words accidental fever, contagious, epidemic. Another point under this head I shall merely mention. Authors, comparing the mortalities of lying-in institutions, whether from puerperal fever or from other causes, are frequently found neglect-